THE INTERNATIONAL
JOURNAL OF ETHICS

JANUARY, 1914.

NATURAL AND RATIONAL SELECTION.

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IN 1893 Thomas Huxley delivered the Romanes lecture at Oxford on "Evolution and Ethics." In that lecture he contrasted organic and human evolution in language that caused a shock of surprise to the more 'orthodox' scientists of his time. He repudiated the idea that "because on the whole animals and plants have advanced in perfection of organization by means of the struggle for existence and the consequent survival of the fittest that therefore men in society, men as ethical beings, must look to the same process to help them towards perfection." On the contrary he affirmed that "social progress means a checking of the cosmic process at every step, and a substitution for it of another which may be called the ethical process."

Notwithstanding these plain unequivocal statements, there are not a few scientific students who imagine that they are following the lead of Huxley when they profess to find the key to human history in the struggle for existence and the survival of the fittest. One is driven to assume either that the statements here quoted are in conflict with the general tendency of Huxley's teaching or (as frequently happens in the interpretation of a master) one aspect of his teaching has been emphasized at the expense of another. Be this as it may, it would be safe to affirm on the evidence of the Romanes lec-

ture in 1893 that, in the opinion of Thomas Huxley, the cosmic process in the organic world was one thing, and the social or ethical process in the human another and a very different thing: so different that there was a continual struggle going on in human life to substitute the one for the other.

It is very tempting to those who believe that the world is one, to apply the theory that holds good in their own branch of knowledge to the whole tree. If that could be done with safety, our problems would be very much simplified. But it cannot be done with safety; for in passing from organic to human evolution we encounter a new factor of stupendous importance called self-consciousness. Self-consciousness is the technical expression used by philosophers to indicate the power of self-examination which human beings have, but animals and plants have not. In plain language it means that human beings look before and after, and animals and plants do not; that human beings have the power of reflecting on their own impulses, and pronouncing them morally good or bad, but animals and plants have not; that human beings have the power of conceiving ends and constructing ideals and determining their lives by constant reference to those ends or ideals, animals and plants have not.

These are some of the characteristics that distinguish man as a self-conscious being, and the possession of them places human beings in a relation to nature and natural law essentially different from that of the animals. It may be a natural law that water will find its own level; but man can make it flow up hill. He can do so because he has the power to invent and control means which enable him to fight and overcome the natural process. So in like manner Natural Selection may be the principle of progress in the organic world; but in human history or evolution, the process of Rational Selection is continually in conflict with it, and is gradually being substituted for it. To try to explain human history by Natural Selection without reference to Ra-

tional Selection is, in my opinion, a most perilous enterprise foredoomed to failure, and I hope to make this clear by explaining and contrasting the two processes.

On the east coast of New South Wales, in any of the bays or harbors removed from the more densely populated cities, the process of natural selection involving the relentless struggle for existence may be observed at almost any time of the year. These harbors abound with fish, and all the characteristics of natural selection may be detected in their mode of life. The bream, squire, whiting, and flounder pursue the shrimps and smaller fish; tailer pursue and devour the whiting and the mullet; jewfish pursue and devour the tailer as well as the smaller fish; and sharks pursue and devour the jewfish. But it is not only that one species attacks and devours another: I have seen the sharks gather round a wounded shark waiting for the moment to strike and tear him to pieces. Here we have an illustration of the struggle for existence in the organic world. The chief characteristics of that struggle may be stated as follows:

It is not only a struggle between individuals of different species, but also a struggle between members of the same species, and this struggle is the more severe because the food they seek is the same, and the amount of that food is limited.

It is a struggle involving the extinction of the less fit. Victory means life, failure means death. There are no half measures about it; the struggle is downright, decisive, final.

Success in the battle or in the struggle is for the strongest, the swiftest, and the most cunning, because strength, swiftness, and cunning are the qualities that enable individuals to survive.

But murder is not the last word on the subject. Dark as is the web of organic struggle, a silver thread runs through it. The creatures that do survive have some characteristic more perfectly adapted to the conditions under which they live than those that fail, and by the

law of inheritance that characteristic is transmitted. In this way the struggle makes for perfection of form,—of form so nearly perfect and so exquisitely beautiful as an eye. This is the 'beneficent' aspect of this otherwise "slow, blundering, wasteful, murderous process of nature."

But it is precisely at this point that we need to lay a careful finger on another prevailing characteristic of organic evolution. This perfection of form is not attained by conscious discrimination or selection on the part of the creatures involved. It is the end of which intelligent beings may become conscious, but of which the creatures themselves know nothing either explicitly or implicitly. For them the process is blind and mechanical, not open-eyed and intelligent. Darwin was, of course, fully aware of this. "The young pointer," he says in his "Origin of Species," "can no more know that he points to aid his master than the white butterfly knows why she lays her eggs on the leaf of a cabbage." There is no foresight, no conscious purpose. Design plays no part in the theory of natural selection.

We must lay hold of this fact with no uncertain grip, and, therefore, it would be best to explain more carefully how the fittest do survive undesignedly and inevitably.

What happens is this. In some way, inscrutable even to scientists, variations appear at birth. Offspring resemble their parents; but there is always some difference between the offspring and the parents, and between the offspring themselves. In the struggle to maintain life, some variations will give the individuals who are fortunate enough to inherit them an advantage over others, and because of that advantage those individuals will survive in the struggle for existence, while the others who have less favorable variations will drop out of existence. It ought to be clear that this is a process altogether different in kind from any rational process by which an intelligent man strives to attain an end or

purpose. Survival is the result of a blind mechanical process, and for this reason the expression 'natural selection' is a somewhat unfortunate one because the word 'selection' conveys the idea of intelligent discrimination and definite design. It is clear from Darwin's letters that when he contemplated the universe as a whole, he could not get away from the conviction of design; but that is a different matter. What was clear to him was that the survival of the fittest by the struggle for existence needed no immediate knowledge or design or purpose to explain it. The breeder has a purpose or design when he selects suitable varieties. But in the organic world the survival of the fittest happens, and it happens just because the struggle for existence is always going on. It was for this reason that Darwin preferred Spencer's expression, the 'survival of the fittest,' to his own. In later life, he would have liked to substitute 'natural preservation' for 'natural selection'; but by that time 'natural selection' had passed into current speech, and so he allowed it to remain with a careful reminder in the latest edition of his works that the expression was metaphorical. How many mistakes made in the application of biological law to human evolution could have been avoided if that reminder had not been so often overlooked!

Here, then, are the characteristics of the cosmic process. It is a struggle for existence between members of the same and of different species. It is a struggle that involves the extinction of the unfit as well as the survival of the fittest. It is beneficent in that it makes for progress in the greater perfection of form. But it is a blind, mechanical process doing very much the same kind of work as a sieve.

It is not to be denied that such a process must be reckoned with to some extent in the history of man. The very fact that Darwin and Wallace made their great discovery simultaneously after reading the essay by Malthus on "Population" is sufficient to show that human

and organic evolution have something in common. But to say that they have much in common is very different from the assertion that the theory of evolution which holds good in the one furnishes an adequate explanation of the process in the other. To argue that the history of our race, even in primitive times, can be adequately explained by such a process is to fly in the face of strong contradictory evidence; to say that the evolution of human life in our own and recent times, even among the individuals of the submerged tenth, has been dominated by it is, in my opinion, a most unwarrantable statement. I believe it is not too much to say that in every self-governing part of the British Empire to-day all parties have identified themselves with policies that are emphatic protests against the domination of such a process; that they are fighting that process step by step in the hope of substituting for it an ethical or social process that is more consistent with the dignity of rational beings. And, further, that even in the relations between one nation and another, where barbarous practices die hard, and we are haunted by a continual dread of war, this so-called cosmic process is being subordinated more and more to a rational process by the substitution of arbitration for war in the settlements of international disputes. This can be shown by reference to the earliest of our records, the "Germania" of Tacitus, where the institutions suggest an organized attempt to restrain if not to eliminate the struggle for existence within the group. It can be shown much more clearly by reference to the history of the administration of justice from the ordeal, through compurgation and the jury system to the modern professional judgment which marks the triumph of rational over natural selection. The administration of justice is by no means perfect; but the judicial world has become a place in which the true or the honest man has a much better chance of surviving than the man whose cause is weak, even though he be physically strong and cunning as a fox. And it

has become so not by a process of natural selection, but by consciously striving through the centuries toward a fuller realization of the ends of justice.

The laisser-faire theory of government in England was supposed to illustrate the operation of the law of the survival of the fittest, and it dominated the policy of the Liberal party and the Manchester School for more than a quarter of a century; but from 1872 onwards, the conservative party became identified with social and industrial legislation. After 1886, the Liberal party itself drifted away from the laisser-faire policy, and from that year it may be said that both parties in England adopted a policy of state interference in the interests of individual freedom as well as of general reform. But that meant that the application of the theory of natural selection to human progress had been superseded by rational selection. For, instead of trusting to the operation of blind forces, statesmen of both parties had made up their minds that there was a definite goal to reach,—improvement in the condition of the people of England,—and that they must choose from time to time, in various ways, the means by which that end was to be attained. In other words, they substituted the social or ethical process for the cosmic or natural process. England had come to realize in practice, if not yet in theory, that liberty was not simply the absence of restraint or interference, and that social, industrial, and political progress depended not so much on the beneficent operations of blind forces as on the practical realization of a policy deliberately adopted in order to attain a desirable end.

That was the state of the political mind of England when Huxley delivered his famous Romanes lecture at Oxford on "Evolution and Ethics" in 1893. In contrasting the cosmic and the social or ethical process; in repudiating the application of the cosmic process to human history; in placing reliance on "a fund of energy operating intelligently" within man instead of the opera-

tion of a blind, mechanical process, he was only putting into scientific language the statement of a truth which the facts of history had already been demonstrating with more than ordinary persistency in the preceding twenty years.

The gradual substitution of rational for natural selection can be clearly detected in the history of international affairs, and has been proceeding at an unusually rapid rate in the last fifty years. In civilized countries law will prevent individuals from settling their differences by fighting: duelling has been discouraged where it is not actually suppressed. But there is no law at present to prevent nations going to war if they are determined to fight. The Balkan crisis proves this. It has been said that in their relations with one another the nations of Europe have made little advance on the 'state of nature.' That is an exaggeration, but there is some truth in it. If there is not actually a *bellum omnium contra omnes*, we still live in a time when even European nations bear considerable resemblance to armed camps; when war is an ever-present possibility; and when even the most advanced nations like England and Germany are straining their resources to the utmost in order to repel a possible invasion. Most people would agree with Sir Edward Grey in his statement that the annual expenditure of Europe on engines of destruction, after nearly two thousand years of Christianity, is a great blot on our civilization; but it would be a mistake to look at the blot and shut our eyes to the brighter part of the page. Since the beginning of the sixteenth century, much has been done in Europe toward the substitution of rational methods of settling national disputes for the more brutal and violent methods of war which remind us so forcibly of the struggle for existence in the organic world.

The idea of maintaining 'the balance of power in Europe' was a step in the right direction, and for that Cardinal Wolsey deserves great credit. When two or more nations enter into an alliance or understanding to

preserve the balance of power, it makes those who are inclined to take the aggressive pause because of the strength of the forces that are likely to be concentrated against them. In that delay there is some hope for the evolution of a better state of things: people have time to think and weigh the risks, financial and otherwise.

A much more important step in the direction of rational selection was the substitution of arbitration for war in the settlement of international disputes in recent years, and to England and the United States belong no small share of the credit. From the latter part of the nineteenth century disputes about the Canadian boundary and Behring Sea fisheries were settled by arbitration, and statesmen on both sides of the Atlantic began to talk about an Anglo-American Council for the settlement of disputes between England and the United States. That council has not yet come into existence, and it is probably a long way off; but a treaty between these two great countries has already been seriously discussed for the settlement of all disputes between them involving consideration of money, territory, and even of national honor by arbitration. Whether the terms of such a treaty could be made effective in the present stage of our civilization may be doubted, but the fact that two responsible statesmen like President Taft and Sir Edward Grey have striven to negotiate that treaty is in itself an indication of considerable advance in the history of the world's peace. It has been said that Japan and France have expressed a desire to participate in such a treaty. It only needs a sufficient number of strong and peaceably disposed nations to sign a treaty of this kind in order to make it practically impossible for warlike nations to take the aggressive.

It is in developments such as these that we detect a process going on more especially in recent history toward the substitution of rational for natural selection; and anyone who has read the reports of the debates at the conference of premiers in London in 1911 will have

realized that this process is being watched, guided, and directed by statesmen in positions of great responsibility.

It is true, then, that we live in an age of wars and dread of wars, but it is also true that for the past four centuries, and especially during the last fifty years, considerable progress has been made toward the substitution of an ethical for a cosmic process. Progress has been and is being made toward the establishment of an international court of arbitration with sufficient power to enforce its decisions. When that court arrives, civilization will have entered upon a new and more settled era of its development.

We are now in a position to explain some of the more important characteristics of rational selection. Natural selection, as we have seen, is a blind, mechanical process; rational selection, on the contrary, is open-eyed and purposive. This does not mean, of course, that human life is free from mechanism; on the contrary, there is plenty of machinery and routine in both individual and organized life. What it means is that human beings are dimly or clearly conscious of the ends which they are striving to attain; and as self-conscious beings, endowed with reason, they have the power of choosing the most suitable means for attaining their ends. Now, in this distinction between blind and purposive evolution, we have the fundamental difference between organic and human evolution, and several consequences of the highest importance follow from it.

In the first place, human progress may be very much more rapid than the progress of animals or plants, especially when by much education or scientific inquiry the intellectual faculties have been quickened and sharpened. The history of scientific progress in the nineteenth century proves this beyond all doubt. We have only to think of the progress in intercommunication to realize it. In the second place, while the process of natural selection is cruel and murderous, the process of rational

selection may be humane. Under rational selection, the struggle for existence may take the form of a struggle between ideas and policies, not necessarily involving a life and death struggle between men at all. Survival of one idea may involve the extinction of a competitive idea, but both individuals and nations who are content to submit their differences to judgment or arbitration may survive. Persuasion does the work in the one that is done by brute force in the other.

Those who argue that the cosmic struggle is inevitable among human beings forget how far the efforts of nature are supplemented by human efforts. The life and death struggle goes on in the organic world, as we have seen, because the food supply is limited. When we think of the number of eggs in a fish's roe, or the number of seeds produced by a single plant, we realize that by her unaided efforts nature could not support even a modest proportion of them if they came to maturity. But the conditions are essentially different when we remember that human beings do not increase at anything like the same rate (to say nothing of prudential restraints), and that, because of the application of scientific methods to agriculture, the food supply of the world is capable of almost indefinite increase. A small island like Java supports thirty millions. How many people could Australia or America support if our farmers, orchardists, and gardeners availed themselves of the latest improvements? So long as these countries were inhabited by aboriginals only, they were capable of supporting only a few scattered tribes; but that was because the aboriginals had not advanced much beyond the hunting stage of human existence. How many people are these countries capable of supporting now that we have not only agriculture but intensive agriculture? now that we have a knowledge that enables us to fight and keep down pests? now that we can analyze the soil and supply the elements in which it is deficient? now that we understand how production can be enormously increased by organization and

the division of labor? It is not only that we have these scientific appliances, but also that there are vast tracts of unoccupied land in different parts of the world waiting for the application of labor and scientific invention to contribute to the food supply. And the end of scientific invention is not yet.

Where the struggle for existence in human life resembles the life and death struggle in the organic world, the resemblance may much more safely be attributed to the ignorance and rapacity of men than to anything that is inevitable. I do not believe that there will ever be more people on this earth than the earth is able to support, provided our farmers, orchardists, and gardeners turn available scientific knowledge to practical account, and provided also that we attain to something like an equitable system in the distribution of wealth. What nature cannot do by her unaided efforts, men can help her to do through the progress of science and of art.

A third important difference is this, that where men are conscious of a purpose or an ideal, they can enter into a combination or organization in order to attain that purpose or ideal. This is a matter of far-reaching importance; because these human organizations afford the means of continuous development for which we have no parallel in the organic world. In the history of human affairs there is a formal as well as a natural continuity.

Whether acquired characteristics are transmitted or not in the organic world, there can be no doubt whatever that acquired ideas, methods, policies, and achievements are transmitted from one generation of human beings to another, and transmitted consciously through the medium of human organizations. The individual may die, but the society, the corporation, and the nation of which he is a member have continuous life, and records of their proceedings are taken and preserved. Those who come after enter consciously into the work of their predecessors, develop it and transmit the results in their own time. The continuity of organic life is preserved by

nature, but the continuity of human life is preserved by conventional as well as by natural means; and that conventional continuity is vastly important in the history of human affairs. There have been thousands, tens of thousands, and even millions of these organizations in history, every one of them seeking the realization of some conscious end. It is not only that favorable variations acquired in one generation are handed down to the next, but that these variations are actually invented and modified by conscious effort in order to attain a conscious end. Nothing of any value need be lost, everything can be recorded; and so the evolution of human affairs becomes continuous in a way it can never be in the organic world. Ants and bees have a wonderful organization, but it is not the kind of organization that we are now discussing. Their organization is natural, not conventional: they keep no records, there is no reflection on previous achievements of the hive, and no consciousness of any end toward which the successive hives may direct their attention. The bees will act just as their progenitors acted, unless by the inheritance of some favorable variations they are constrained to act in a manner slightly different. But this is action of instinct and not of conscious purpose. Conventional continuity is possible only to self-conscious beings, and how much of the history of the world would be lost if this conventional continuity were neglected or dropped out! A little reflection will enable us to see that it is also because of this conventional continuity that the evolution of human affairs proceeds much more rapidly than organic evolution.

Here, then, are the essential differences between natural selection in the organic world and rational selection in the human world. Natural selection is blind and mechanical; rational selection is open-eyed and intelligent; natural selection is and must be slow; rational may be, and often is, incalculably more rapid; natural selection is a murderous process involving the extinction of the

less fit; rational selection may be and often is a humane process,—a struggle for existence between ideas, not between men; acquired characteristics may or may not be transmitted in the process of natural selection, and if they are, they are not so important as the characteristics that are inborn; but in the process of rational selection, acquired information, ideas, policies, and methods may be transmitted because rational beings can organize for a definite purpose, and those organizations live long and die hard. From this contrast it ought to be quite clear that rational selection is a process more worthy of the dignity of human life than natural selection.

But because rational selection is the more worthy, it does not follow by any means that we can venture to neglect the qualities fostered by the struggle for existence, or that we can safely break with the past in order to attain a higher civilization. Having said so much about the superiority of rational selection, the obligation is all the stronger to sound a warning by a careful reminder that the world is not yet done with brute force. In the present juncture of the world's affairs, great issues between nations may have to be decided by natural rather than by rational methods; and, this being so, the qualities of strength and swiftness fostered by the struggle for existence must still be jealously safeguarded. Reason is better than force, but force is more ultimate than reason, and, in the absence of an international court of arbitration with power to enforce its decisions, one nation that is determined on aggression may make an appeal to force inevitable. In the contest that ensues, a nation without strength, however high its ideals, will have little chance of survival against a nation that is backed by force. It were little good, therefore, for England and America to raise the standard of international peace unless they had power enough behind them to keep that standard erect in case of conflict, and that is the reason why England, the center of peace at the present

time, has never had to make greater preparations for war.

It is impossible to overlook the fact that one nation in shaping its policy must be guided to a considerable extent by what another nation may do. Not once but often in the history of the world, the more civilized nation or race has succumbed to the attack of barbarians. It happened in the conflicts between Turk and Saracen, Roman and Goth; and there is no reason in the nature of things why history should not repeat itself. The time may come when an international court of arbitration will be established on a firm basis, because the nations that favor arbitration and are really determined to enforce it are numerous enough and strong enough to make aggressive warfare hopeless. But they will need to be strong and numerous if their decisions are to be respected.

The dwarf need not fear the Titan in a court of law if his cause is just and commends itself to the judges, because he knows that behind the law is a strength stronger than that of the Titan. So it must be in regard to conflicts of nations. But that time is not yet, and until it does arrive those nations that are to do most for the world's peace must also be nations that can give a good account of themselves in the struggle for existence. Great Britain can do far more to maintain the world's peace than Turkey, and so can Germany. The reason is too obvious to be stated.

Rational selection is undoubtedly a more humane process than natural selection; but in striving to obtain the former, we dare not forget that at any time we may be involved in the latter; and then it is not simply a struggle for survival between this idea or that, but a life and death struggle between human beings themselves. There is no real inconsistency in the policy of Great Britain to-day. Sir Edward Grey wants peace, and is striving earnestly for it; nevertheless, the government of which he is a member spends forty millions a year on the navy, and seventy millions on defense;

and they cannot afford to spend less. The people of Australia would prefer peace to war almost to a man; nevertheless, the government of the commonwealth has decided to spend an amount on defense that will be about the same per head as that paid by the British taxpayer. Englishmen and Australians feel constrained to do this because the argument of expediency makes any other course too dangerous.

But there are not wanting those who go further and argue that, in the present stage of human development, an occasional return to the methods of the cosmic process is unavoidable and even essential to moral health. They do not doubt that rational selection is a process more worthy of human beings than natural selection. They contend, however, that civilization has its own attendant evils, and that its condition does at times become desperate, and those are the times when a desperate remedy such as war is the only effective way of eradicating the disease. In making such a statement, the assumption is that, while war is a dreadful experience, there are worse things in human life than war. In his "Origin of Species," Darwin has pointed out that where individuals are deficient in strength, they may still survive in the struggle for existence by means of trickery and cunning. There are tricks in the human world, and many more tricks than are possible in the organic world because of that very self-consciousness which makes the gap between the organic and the human. Where the struggle for existence takes this form, it sometimes happens that individuals, societies, and even nations sink into a condition of depravity in which trickery takes the place of candor, deceitfulness of honesty, and corruption of simplicity. In such cases, the moral atmosphere becomes stagnant, stifling, and electric. That is a condition so desperate that analagous conditions in the physical world would seem to suggest the only remedy: a storm is needed to clear the atmosphere and make it sweet and bracing once again.

But the condition of civilization need not be as desperate as that before danger is encountered through the pursuit of the higher interests of civilization. It would appear from a review of history that, in the pursuit of refinement, strength and vitality have often declined. Nobody would accuse Schiller of want of sympathy for refinement, culture, and rational method of procedure; yet it must be clear to anyone who has read his letters on "The Æsthetical Education of Man" that, in his opinion, no amount of refinement and culture can make up for the loss of those heroic qualities of the soul which are undoubtedly fostered by the struggle for existence, and on the preservation of which the sanity and integrity of human life so much depend.

In reviewing the objections usually urged against culture, he does not shrink from stating the most searching of them in language that is both forceful and incisive: that dangerous incline leading the soul to neglect all reality, and to sacrifice truth and morality to an attractive envelope; that state of mind in which activity becomes enfeebled, while virtues that give an agreeable appearance prevail; in which excesses and vices that can be reconciled with an agreeable appearance are permitted or palliated; in which strength of character declines as it did in Greece, where the beautiful found sway on the ruins of heroic virtues. "And yet," he says, "this strength of character which is commonly sacrificed to establish æsthetic culture is the most powerful spring of all that is great and excellent in man, and no other advantage, however great, can make up for it."

We must be careful to note, of course, that Schiller does not say that æsthetic culture necessarily weakens fiber. On the contrary, he would argue that, properly safeguarded and rightly sought, it would be a means of strengthening character. His avowed object, indeed, in writing this series of letters on "The Æsthetical Education of Man" was to suggest a remedy not only for the coarseness and brutality of the lower element of so-

ciety, but also for the lethargy and depravity that had overtaken a section of the upper classes in the pursuit of a one-sided culture. The trouble is that culture, as one form of advanced civilized life, often has been attained at the expense of the heroic qualities of the soul. In such cases there need be no doubt about Schiller's position: "At the risk of being hard and coarse," he says, "it would seem preferable to dispense with this dissolving force of the beautiful rather than see human nature a prey to its enervating influence, notwithstanding all its refining advantages."

These observations have an important bearing on the subject immediately under discussion, for unless rational idealism is properly understood and carefully safeguarded, the same disastrous results may ensue as in the case of æsthetic development. History leaves no doubt, indeed, that disastrous results have ensued. Nobody will doubt for a moment that the civilization of the Romans in the fifth century, with its far-reaching ecclesiastical organization, its great system of jurisprudence, and its municipal organizations, was far more enlightened, rational, and humane than the civilization of the Goths, but it was a civilization based upon weakness, not upon strength.

Instead of fighting their own battles, the Romans had for long employed others to fight for them. The body-guard of Augustus was composed for the most part of mercenaries; after Constantine, the levies from outside the empire formed the majority of the troops; and after Theodosius, in 395, a Roman was the exception. It was in the year 410, just fifteen years after the death of Theodosius, that Alaric sacked and captured the immortal city. The moral has been drawn so often that it is only necessary here to show how aptly it illustrates this part of our argument. There is no doubt that the qualities of strength and swiftness are developed by the struggle for existence, as we find it going on in the organic world; and if these qualities are imperilled by

an enfeebled or corrupt civilization, it would seem better to revert to that struggle for a time, in the hope of recovering them, than to run the risk of losing them altogether. The cosmic process is cruel and murderous; war is a catastrophe dreadful to contemplate; but the most dreadful of all tragedies is the ruin of a great soul, and that ruin may overtake men and nations in the decline of strength and candor.

It may be that the keen competition in business, the discipline of organized sport, and other forms of activity will strengthen the will, and preserve the qualities of strength and endurance as war has done in the past. If so, the sooner we dispense with war the better on moral as well as on other grounds. But we must not forget that men are men and not angels, and that our speculations in these matters must be regulated and restrained by circumstances of human life as we find them. If war is to be abolished, we cannot dispense with the qualities that war has helped to foster. The higher our ideals, the more jealously must we safeguard the strength and vigor that is necessary to maintain them. *Corruptio optimi pessima* is a maxim that finds plenty of application in the history of human life. Among the religious orders of the Middle Ages, none cherished ideals so high as the Franciscans, yet the Franciscans became corrupt in a shorter time than any other of the orders, and great was their fall in the fourteenth century.

The moral of it all would appear to be that idealism must be based upon strength, not upon weakness, and this is true of rational as well as æsthetic and religious idealism. There is no reason why we should not go on confidently and cheerfully with the substitution of rational for natural selection, provided we do not sacrifice, either as individuals or as nations, those qualities that are necessary alike for the maintenance of rational ideals and moral fiber.

But it is one thing to argue that an occasional return to the struggle for existence may be inevitable or even

desirable in the present state of our development, quite another to say that the struggle, such as we find in the organic world, is the key to the development of human life. The one may be true, the other is false. Inasmuch as there is a considerable amount of mechanism and routine inseparable from human life, the mechanistic interpretation of evolution will not be without some application in human history. Inasmuch as the structure of our bodies bears a close resemblance to that of the animals, we must expect that the organic theory of evolution will also contribute something to the theory of human development. But inasmuch as man is super-organic, endowed with intellectual, spiritual, and artistic faculties over and above the qualities of animal life, the purposive interpretation of human history becomes imperative, and the higher we go in the scale of being the more imperative it is.

It ought to be clear, then, that any comprehensive theory of evolution must explain the gaps between the organic and super-organic worlds, and reconcile the differences in the theories of evolution applicable to each. It must not be assumed that the theory which holds good in the one is sufficient to explain evolution in the other. The main object of this paper has been to prove this. There has been in the past a tendency to apply the organic theory of evolution to human development too readily; and in some cases by eminent scientists whose researches into the problems of organic life have been both extensive and thorough, but whose knowledge of human history is very scant indeed. This has led to confusion and error, and historical students themselves must bear some responsibility for the mistakes that have been made. When we consider how much time has been spent in historical research in the last half century, it is strange that so little should have been done to show how that research affects evolutionary thought since Darwin's time.

There is no doubt that evolution applies to human as

well as other forms of life; but a theory of evolution that is to explain organic and human life will need to be much more comprehensive than the one with which we are familiar at present; and for those who believe that evolution must be read backwards as well as forwards, the importance of a study of history or the evolution of human affairs as a means of contributing to that more comprehensive theory, is not likely to be challenged.

G. C. HENDERSON.

THE UNIVERSITY OF ADELAIDE.

ETHICAL PESSIMISM IN BERGSON.

J. W. SCOTT.

THE ethical pessimism referred to in the title of this paper is primarily an impression which arises in the mind after reading one of M. Bergson's early works, the essay on laughter. The aim of the discussion is to point out the impression, and to raise the question whether there is any reason for it in the account of the comic, from which it arises.

An essay on laughter hardly seems an appropriate place in which to practise ethical diagnosis. And it almost savors of banality to begin to ask of this particular essay what sort of moral spirit animates it. The only spirit that is in it, in a sense, is that of the artist; or of the great author who chances upon an innocent, little noticed psychic phenomenon which he can proceed to dissect and anatomize for the behoof solely of such as delight in such things. Bergson has no didactic purpose to serve in this book; nor has he any taste for coarse effects. He administers no moral shock to his reader. He upsets no prejudices. He has no interest, in fact, but to cut open the thing he is handling and let light in. His central question is the simple one, what is it that we